

Water models

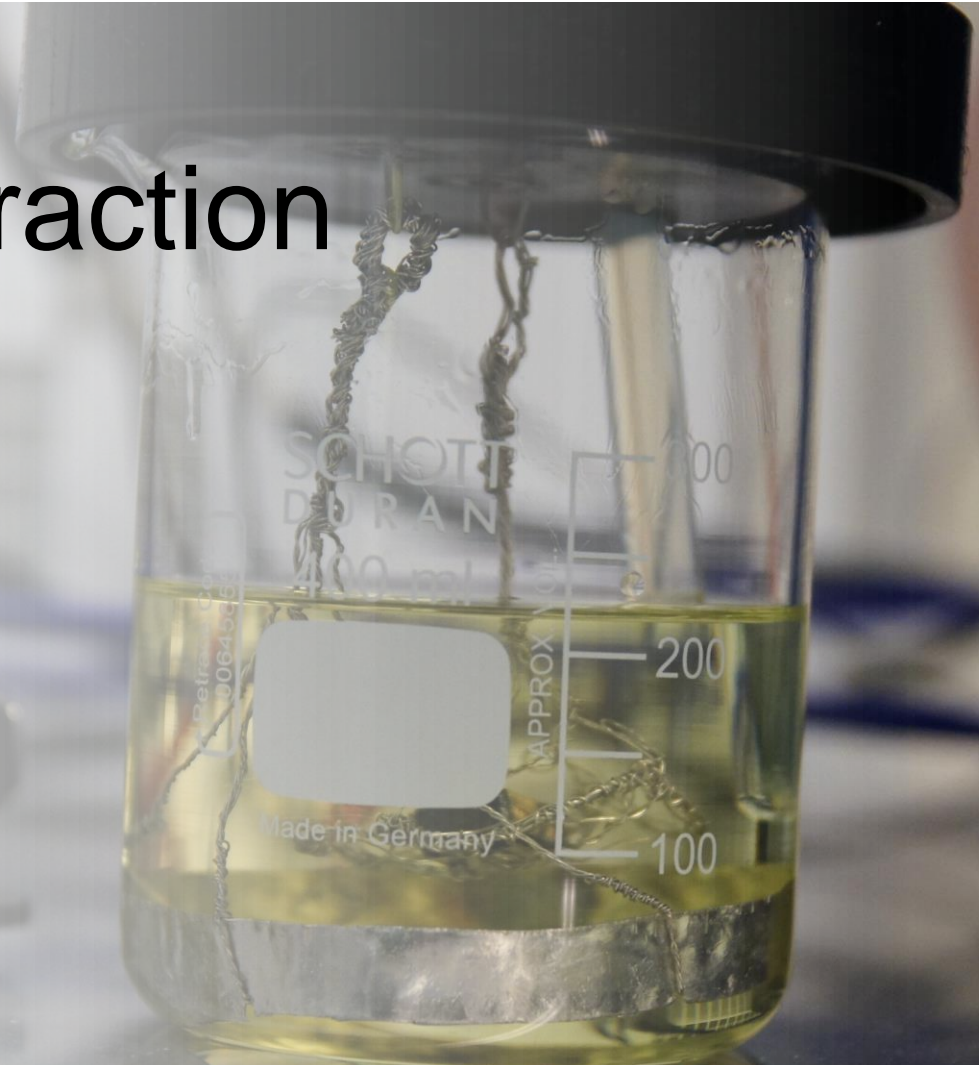
- The models visualize phenomenon taking place inside a converter and ladle like steel slag flow and wearing of refractory materials.
- Air and CO₂ used as injection gases.
- Mixing measurements by pH, colour injection and electric conductivity methods.

Briquetting machine

- Agglomeration of fine metallurgical particles and recycling them back to process in a form of briquettes.
- Maximum pressure is 210 bar/briquette and vibration 60 Hz.
- Briquette size is 50mm in diameter and 100mm in height.
- Used for
 - Production of self-reducing briquettes
 - Production of sidestream-based slag former briquettes
 - Binder type and amount studies.

Inclusion electrolytic extraction

- Potentiostat Biologic SP-150 and a self-made cell is used in extraction of non-metallic inclusions in steel samples.
- Sample size up to 30g.
- Inclusions are then studied separately with FESEM, capable of particle size analysis and 3D observations.



Thermodynamic calculation software

- HSC, ChemSage and FactSage software are for thermodynamic equilibrium calculations
- Process mass and energy balance analysis.
- Used for
 - Determination of oxide melts (slags) solidus and liquidus temperatures
 - Determination of stable inclusions compounds in molten steels.

